

1 Listing of the Claims:

2       This listing of claims will replace all prior versions, and  
3 listings, of claims in the application using (Original) (Currently  
4 Amended) (New) (Canceled) (Previously Amended) nomenclature, as  
5 recited in the below listing of claims.

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7 1. (Currently Amended) A method of broadcasting from a proximal  
8 cache at a proximal internet protocol address (IPA) a routing item  
9 for indicating an originator storing web content data associated  
10 with a uniform resource locator (URL) of a web server at an  
11 originating IPA permanently storing the web content data, the  
12 method comprising the steps of:

13       originating URL identifier generating at the proximal IPA  
14 generating an originating URL identifier for indicating the URL,

15       ~~originating~~ sourcing IPA generating at the proximal IPA an  
16 ~~originating~~ a sourcing IPA for indicating the originator,

17       destination IPA generating at the proximal IPA a destination  
18 IPA for indicating a destination cache,

19       associating at the proximal IPA the ~~originating~~ sourcing IPA  
20 and the originating URL as the routing item, and

21       transmitting the routing item from the proximal cache at the  
22 proximal IPA to the destination cache at a destination IPA.

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1 2. (Currently Amended) The method of claim 1 further comprising the  
2 steps of:

3 distance generating a distance metrics for indicating a web  
4 hop distance of a number of the plurality of cooperative web caches  
5 through which the URL web content data would be communicated from  
6 ~~the from the originator~~ a source at the sourcing IPA through the  
7 plurality of cooperative web caches to the proximal web cache.

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10 3. (Currently amended) The method of claim 2 wherein,

11 the originating URL identifier is a proximal URL identifier,  
12 the ~~originating~~ sourcing IPA is the proximal IPA, the proximal  
13 cache stores locally the web content data, and

14 the distance metric ~~distance~~ is one indicating that one web  
15 hop is between the destination cache to the proximal cache.

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18 4. (Currently amended) The method of claim 2 wherein,

19 the originating URL identifier is a source URL identifier,  
20 the ~~originating~~ sourcing IPA ~~is the source IPA indicating~~  
21 indicates an IPA location of a the source distally storing the web  
22 content data,

23 the distance metric ~~distance~~ is greater than one indicating a  
24 number greater than one of the number of web hops between the  
25 destination cache through the proximal cache to the source distally  
26 storing the web content data.

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1 5. (Canceled)

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3 6. (Currently amended) The method of claim 4 wherein,

4 the source is the web server distally and permanently storing  
5 the web content data, and

6 the ~~source~~ sourcing IPA is a web server IPA indicating the IPA  
7 location of the web server.

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9 7. (Original) The method of claim 1 wherein,

10 the originating URL identifier is selected from the group  
11 consisting of,

12 an exact URL identifier being an exact URL comprising a  
13 plurality of URL components,

14 a wildcard URL identifier being a wildcard URL comprising a  
15 plurality of URL components a last URL component of which being a  
16 wildcard component, and

17 a coded URL identifier being a coded URL comprising a series  
18 of hashing codes of a decomposed URL being a decomposition of the  
19 URL selected from the group consisting of either an exact URL or a  
20 wildcard URL each of which comprising a series of URL components,  
21 the series of hashing codes being a sequence of hashing codes of  
22 respective URL segments of a respective series of increasingly  
23 concatenated URL components of the series of URL components of the  
24 URL.

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1 8. (Original) A method of broadcasting from a proximal cache at a  
2 proximal internet protocol address (IPA) a routing item for  
3 indicating a distal web cache storing web content data associated  
4 with a uniform resource locator (URL) of a web server permanently  
5 storing the web content data, the proximal web cache is a first one  
6 of a plurality of cooperative web caches, the distal web caches is  
7 a last one of the plurality of cooperative web caches, the method  
8 comprising the steps of:

9       URL identifier generating at the proximal IPA a URL identifier  
10 for indicating the web content data of the URL stored in the distal  
11 web cache,

12       proximal IPA generating at the proximal IPA the proximal IPA  
13 for indicating the location of the proximal cache,

14       destination IPA generating at the proximal IPA a destination  
15 IPA for indicating a destination cache,

16       distance generating at the proximal IPA a distance metric for  
17 indicating a web hop distance of any number of the plurality of  
18 cooperative web caches through which the web content data would be  
19 communicated from the distal web cache to the destination web  
20 cache,

21       associating at the proximal IPA the proximal IPA and the URL  
22 identifier and the distance metric as the routing item, and

23       transmitting the routing item from the proximal cache at the  
24 proximal IPA to the destination cache at a destination IPA.

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1 9. (Original) The method of claim 8 wherein,

2 the distance metric is greater than one indicating a number  
3 greater than one of the number of web hops between the destination  
4 cache through the proximal cache to the distal web cache storing  
5 the web content data.

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8 10. (Original) The method of claim 8 wherein, the URL identifier is  
9 selected from the group consisting of,

10 an exact URL identifier being an exact URL comprising a  
11 plurality of URL components,

12 a wildcard URL identifier being a wildcard URL comprising a  
13 plurality of URL components a last URL component of which being a  
14 wildcard component, and

15 a coded URL identifier being a coded URL comprising a series  
16 of hashing codes of a decomposed URL being a decomposition of the  
17 URL selected from the group consisting of either an exact URL or a  
18 wildcard URL each of which comprising a series of URL components,  
19 the series of hashing codes being a sequence of hashing codes of  
20 respective URL segments of a respective series of increasingly  
21 concatenated URL components of the series of URL components of the  
22 URL.

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1 11. (Previously Presented) The method of claim 8 further comprising  
2 the steps of:

3 repeating the URL identifier generating step, proximal IPA  
4 generating step, distance generating step, the associating step, a  
5 plurality of times for generating a plurality of routing items each  
6 comprising a URL identifier and a respective distance metric, and

7 incorporating the plurality of routing items within a protocol  
8 data structure within a routing packet prior to the transmitting  
9 step, the routing protocol packet comprising the URL and a  
10 respective distance metrics and comprising the proximal IPA and the  
11 destination IPA.

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1 12. (Previously Presented) A method of broadcasting from a proximal  
2 cache at a proximal internet protocol address (IPA) a routing item  
3 for indicating a distal web cache storing web content data  
4 associated with a uniform resource locator (URL) of a web server  
5 permanently storing the web content data, the proximal web cache is  
6 a first one of a plurality of cooperative web caches, the distal  
7 web caches is a last one of the plurality of cooperative web  
8 caches, the method comprising the steps of:

9       storing at the proximal IPA in a routing table a plurality of  
10 URL identifiers cross referenced to a respective plurality of  
11 distance metrics,

12       URL identifier generating at the proximal IPA a URL identifier  
13 of the plurality of URL identifiers, the URL identifier for  
14 indicating the web content data of the URL stored in the distal web  
15 cache,

16       proximal IPA generating at the proximal IPA the proximal IPA  
17 for indicating the location of the proximal cache,

18       destination IPA generating at the proximal IPA a destination  
19 IPA for indicating a destination cache,

20       distance generating at the proximal IPA a distance metric by  
21 cross referencing the URL identifier to one of the plurality of URL  
22 identifiers and to a respective one of the plurality of distance  
23 metrics for indicating a web hop distance of any number of the  
24 plurality of cooperative web caches through which the web content  
25 data would be communicated from the distal web cache to the  
26 destination web cache,

27       associating the proximal IPA and the URL and the distance  
28 metric as the routing item, and

1       transmitting the routing item in a routing packet within a  
2 routing protocol from the proximal cache at the proximal IPA to the  
3 destination cache at a destination IPA.

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6 13. (Original) The method of claim 12 wherein,

7       the originating URL identifier is selected from the group  
8 consisting of,

9       an exact URL identifier being an exact URL comprising a  
10 plurality of URL components,

11       a wildcard URL identifier being a wildcard URL comprising a  
12 plurality of URL component a last URL component of which being a  
13 wildcard component, and

14       a coded URL identifier being a coded URL comprising a series  
15 of hashing codes of a decomposed URL being a decomposition of the  
16 URL selected from the group consisting of either an exact URL or a  
17 wildcard URL each of which comprising a series of URL components,  
18 the series of hashing codes being a sequence of hashing codes of  
19 respective hashing of URL segments of a respective series of  
20 increasingly concatenated URL components or the series of URL  
21 components of the URL.

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1 14. (Previously Presented) The method of claim 12 further  
2 comprising the steps of:

3 repeating the URL identifier generating step, proximal IPA  
4 generating step, distance generating step, the associating step, a  
5 plurality of times for generating a plurality of routing items each  
6 comprising a URL identifier and a respective distance metric, and  
7 incorporating the plurality of routing items within a protocol  
8 data structure within the routing packet prior to the transmitting  
9 step, the routing protocol packet comprising the URL and a  
10 respective distance metrics and comprising the proximal IPA and the  
11 destination IPA.

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13 15. (Original) The method of claim 12 wherein,

14 the storing steps creates a routing table for cross referencing  
15 the plurality of URL identifiers to the plurality of distance  
16 metrics and to one or more juxtaposed cooperative web caches IPAs  
17 of one or more juxtaposed cooperative web caches of the cooperative  
18 web caches, the one or more juxtaposed cooperative web caches for  
19 routing URL identifiers to distal web caches storing the web  
20 content data of the respective plurality of URL identifiers.

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22 16. (Previously Presented) The method of claim 15 wherein,

23 the proximal cache and the one or more juxtaposed cooperative  
24 web caches being within a local group of cooperative web caches.

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26 17. (Previously Presented) The method of claim 16 wherein,

27 the proximal cache is within one or more local groups of  
28 cooperative web caches.